

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: David Neil SLATTER) Re: Preliminary Amendment
Serial No.: Not yet assigned)
Filed: Concurrently herewith) Our Ref: B-4107 618601-6
For: "IMPROVEMENTS RELATING TO)
IMAGE CAPTURE SYSTEMS") Date: February 15, 2001

Commissioner of Patents and Trademarks
Box New Patent Application
Washington, D.C., 20231

Sir:

Prior to examination of the above-identified application, it is respectfully requested that the following amendments be made to the Drawings, Claims and Abstract:

IN THE DRAWINGS

Please enter the seven sheets of formal drawings (Figs. 1-8) enclosed herewith into the above-identified application to replace the seven sheets of informal drawings (Figs. 1-8) filed concurrently herewith.

IN THE CLAIMS

1. (Amended) An electronic image capture apparatus comprising: an image detecting device adapted to capture a set of sub-images or tiles corresponding to different areas of a document at known locations and a processor [electronic processing means] adapted to receive the set of sub-images produced by the device and to process the sub-images to form a machine-readable text document equivalent to the portion of the document covered by the set of

sub-images; wherein [characterised in that]:

the processor [processing means] includes an optical character recognition sub-routine which is adapted to produce a first set of processable data files which each comprise a data set of characters corresponding to characters appearing in a respective sub-image in the set and the relative location of the characters in that sub-image; and

the processor [processing means] is adapted to stitch together the characters stored in the data files to produce a machine readable text document.

2. (Unchanged) An electronic image capture apparatus according to claim 1 wherein the image detecting device comprises an electronic camera having a detector, a lens having a field of view which is adapted to limit the radiation incident upon the detector to that within the field of view, an actuator for moving the field of view of the camera relative to the document to be imaged, and a controller for controlling the actuator to move the field of view of the camera across the document so as to capture the set of sub-images or tiles.

3. (Amended) An electronic imaging apparatus according to claim 1 [or claim 2] wherein the data in the first set of processable data files is stitched together to produce the machine readable document by allocating characters in the data files onto corresponding locations in a spatial template [(or map)] of the machine readable document.

4. (Amended) An electronic imaging apparatus according to claim 1[, 2 or claim 3] wherein the processor [processing means] establishes a co-ordinate system which defines the template of the machine readable document whereby any point in the imaged document can be uniquely identified by its co-ordinate in the machine

readable text document.

5. (Amended) An electronic imaging apparatus according to claim 4 wherein a second co-ordinate system is defined for each sub-image and the characters located in each sub-image after optical character recognition [OCR] are stored in the processable data files along with their location in this second co-ordinate frame.

6. (Unchanged) An electronic imaging apparatus according to claim 5 wherein the first and second co-ordinate systems are the same or are related through a transform whereby each character stored in a processable data file can be mapped onto the co-ordinate frame of the machine readable document.

7. (Amended) An electronic imaging apparatus according to claim 1 [any preceding claim] wherein the sub-images overlap spatially at least by the width of the largest character which is expected in the document.

8. (Amended) An electronic imaging apparatus according to claim 1 [any preceding claim] wherein where only one data file contains a character at a given location in the machine readable text document the processor [processing means] is adapted to allocate that character to that location.

9. (Unchanged) An electronic imaging apparatus according to claim 8 wherein if none of the processable data files contain a character for a location in the machine-readable text document then a space is entered in the text document at that location.

10. (Amended) An electronic imaging apparatus according to claim 8 [or claim 9] wherein the processor [processing means] is adapted to determine the reliability of the data in the processable data

files.

11. (Amended) An electronic imaging apparatus according to claim 10 wherein in the event that two or more data files contain different characters corresponding to the same location in the machine readable text file the processor [processing means] is adapted to select which data to allocate based on the reliability of the data.

12. (Amended) An electronic imaging apparatus according to claim 10 [or claim 11] wherein the processor [processing means] is adapted to determine the reliability of the data by applying one or more logical rules to the data in the processable data files.

13. (Unchanged) An electronic imaging apparatus according to claim 12 wherein the logical rules include using the character which is located furthest away from the edge of a sub-image to construct the machine readable document if there is a conflict.

14. (Amended) An electronic imaging apparatus according to claim 1 [any claim preceding] wherein the processor [processing means] is adapted to identify lines of text within each processable data file from the spatial distribution of the characters identified within each sub-image.

15. (Amended) An electronic imaging apparatus according to claim 1 [any preceding claim] wherein the data in the processable data files comprises ASCII characters.

Please delete claim 16 without prejudice.

17. (Amended) A method of creating a machine readable text document in a memory comprising:

capturing an image of a document being scanned by capturing a plurality of sub-images or tiles which correspond to known regions of a document and which in combination cover the document being scanned;

performing an optical character recognition process on each sub-image or tile to create a plurality of text records with machine-readable coded representations of recognised characters; and

joining the text records corresponding to the aligned sub-images or tiles so as to create the machine readable text document.

18. (Unchanged) The method of claim 17 in which the text records comprising coded representations of recognisable characters are joined by comparing their data content at regions of expected overlap.

19. (Amended) The method of [claim 16 or] claim 18 in which the joining operation comprises allocating characters in the text records corresponding to known regions of the document to a corresponding region of the machine readable text document.

20. (Unchanged) The method of claim 19 wherein in the event that more than one text record contains a character for the same region of the text document, as occurs at overlap areas, then logical rules are applied to select which character to allocate to that region.

21. (Amended) A computer readable medium having a program recorded therein in which the program causes, in use, a computer running the program to create a machine readable text document in

a memory, said program being adapted to:

receive as input a document image captured as a plurality of
sub-images or tiles which correspond to known regions of a
document and which in combination cover a scanned document;
perform an optical character recognition process on each sub-image
or tile to create a plurality of text records with machine-
readable coded representations of recognised characters; and
join the text records corresponding to the aligned sub-images as
tiles so as to create the machine readable text document. [execute
the method of claims 17, 18, 19 or 20 or produce an apparatus in
accordance with any one of claims 1 to 16.]

Please delete claim 22 without prejudice.

IN THE ABSTRACT

Page 38, Line 6 Please delete "(2)", "(3)", and "(4)".

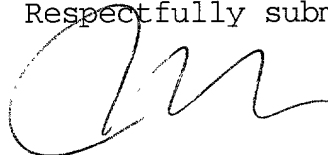
Page 38, Line 8 Please delete "(7)".

Page 38, Line 9 Please delete "(20)".

REMARKS

This Preliminary Amendment amends Claims 3-4, 7-8, 10, 12, and 14-15 so that they are no longer multiply dependent. The Applicant may elect to amend Claims 3-4, 7-8, 10, 12, and 14-15 to make them again multiply dependent or to add additional claims to this application to provide coverage similar to, broader than or narrower than the present claims at any time during the pendency of the above-identified U.S. application.

Respectfully submitted,



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Enclosure: seven sheets of formal drawings (Figs. 1-8)